

CLAIMS

1-15. (canceled)

16. (currently amended) A method for inhibiting polymerization during at least one of manufacture, purification, handling and storage of a subject ethylenically unsaturated monomer, the method comprising the steps of:

introducing the monomer into apparatus for at least one of the manufacture, purification, handling and storage of the monomer, at least a portion of the apparatus in contact with the ethylenically unsaturated monomer selected from the group consisting of acrylic acid, an alpha alkyl acrylic acid, an alpha alkyl acrylic ester, a beta alkyl acrylic acid, a beta alkyl acrylic ester, methacrylic acid, an ester of acrylic acid other than methyl acrylate and 2-ethylhexyl acrylate, an ester of methacrylic acid, vinyl acetate, a vinyl acetate, a vinyl ester, a polyunsaturated carboxylic acid, a polyunsaturated ester, maleic acid, a maleic ester, maleic anhydride, and acetoxystyrene comprising a metal alloy containing sufficient copper to inhibit, in the presence of a gas containing oxygen, polymerization of the monomer within the apparatus, wherein said metal alloy comprises about more than 40% nickel and cobalt, 25% to about 50% less than 60% copper and not more than 2.5% iron; and

providing a gas containing oxygen in the interior of the apparatus containing the monomer;

thereby inhibiting polymerization of the monomer in the apparatus.

17. (canceled)

18. (previously presented) The method of Claim 16, wherein the alkyl group is a straight chain or branched alkyl group having 1 to 8 carbon atoms.

19. (original) The method of claim 18, wherein the alkyl group is a straight or branched alkyl group having 1 to 4 carbon atoms.

20. (original) The method of Claim 16 wherein the ethylenically unsaturated monomer is acrylic

acid.

21. (original) The method of Claim 16 wherein the ethylenically unsaturated monomer is ethyl acrylate.
22. (original) The method of Claim 16 wherein the ethylenically unsaturated monomer is butyl acrylate.
23. (canceled)
24. (canceled)
25. (previously presented) The method of Claim 16, wherein the metal alloy contains about 30% to about 50% copper.
- 26-28. (canceled)
29. (original) The method of claim 16 wherein the apparatus is selected from the group consisting of distillation equipment, a distillation internal component, flame arrestor equipment, extraction tower equipment, absorption equipment, adsorption equipment, heat exchange equipment, piping, a fitting, valving, a pump and a container.
30. (original) The method of Claim 16, wherein the apparatus is distillation equipment and the portion of the apparatus is packing.
31. (original) The method of Claim 16, wherein the apparatus is a distillation column.
32. (original) The method of Claim 31, wherein the oxygen-containing gas is provided through an inlet for the oxygen-containing gas at a lower portion of the distillation column.
33. (original) The method of Claim 16, wherein the apparatus is a distillation column and the

portion comprises trays for the distillation column.

34. (original) The method of Claim 16, wherein the oxygen-containing gas is provided through an inlet for the oxygen-containing gas at a lower portion of the apparatus.
35. (original) The method of Claim 16, wherein the oxygen-containing gas is air.
36. (original) The method of Claim 16, wherein the oxygen-containing gas contains about 5 volume % oxygen.